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PAGE 12 TEST SPECIFICATION

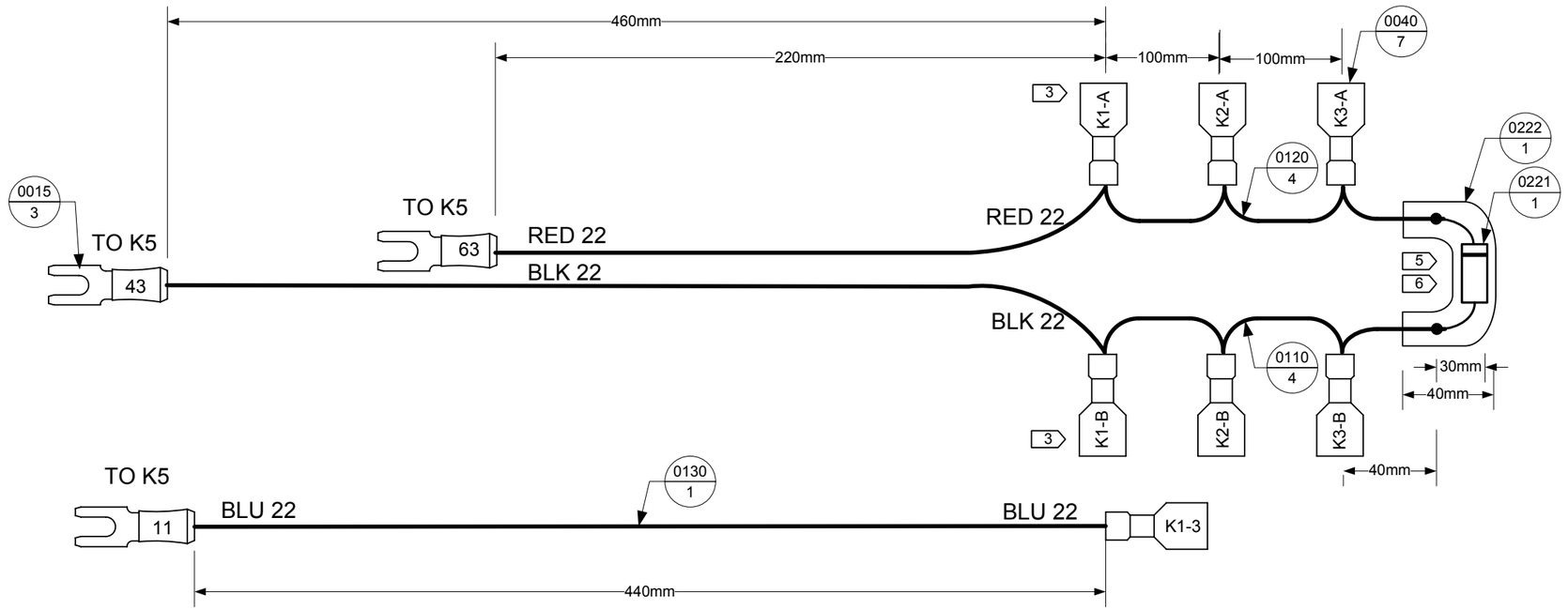
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REV	ECO	DATE	DRAWING CHANGES	APPROVED BY
E	F	G	H	I
D	CA06482	2005.02.01	TRIM WIRE LENGTH 0040 Pg1	KAM
C	CA06259	2004.12.08	ADD TEST SPEC	KAM
B	Not used		NO CHANGE	NO CHANGE

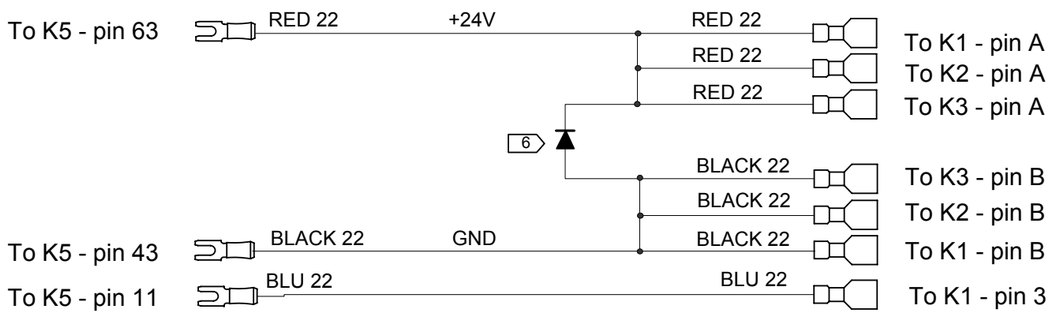
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DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

DESIGNED BY	DRAWN BY			
S.FOUDIMOV	K.CHENG			
MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS	
PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	0	12



CONNECTION DIAGRAM



NOTES:

1. 0010 / 1 — ITEM # ON THIS PAGE; QUANTITY # ON THIS PAGE
2. ALL DIMENSIONS REPRESENT CABLE LENGTH NOT DISTANCE. UNLESS OTHERWISE SPECIFIED, CABLE LENGTH TOLERANCE IS +10/-0 mm
3. CRIMP THE TWO WIRES TOGETHER INTO THE PIN
4. MARK TERMINALS AGAINST DESTINATION WITH PERMANENT INK
5. PUT THE HEATSHRINK TUBE INTO THE WIRE, BEFORE SOLDERING THE DIODE LEADS TO THE WIRES.
6. ENSURE CORRECT DIODE POLAIRTY

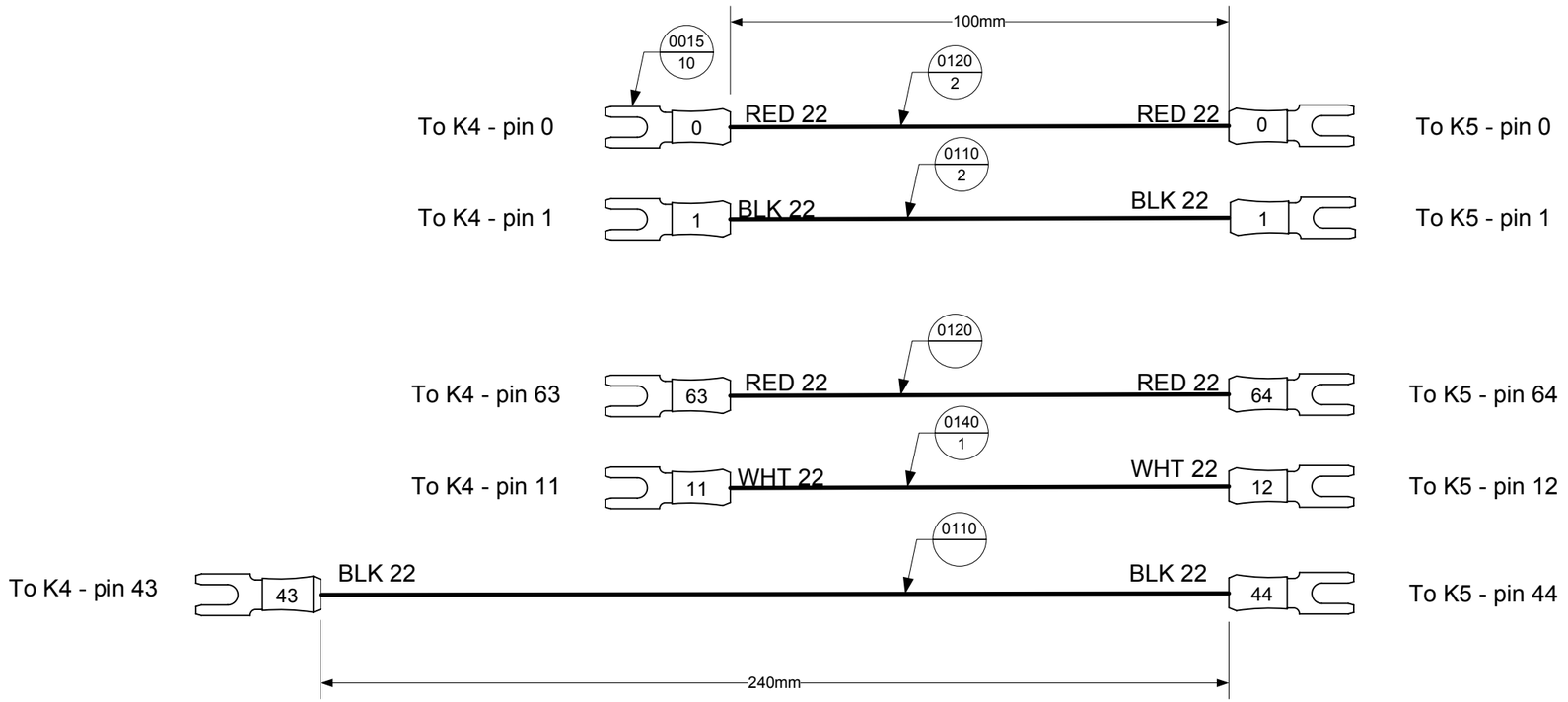
K1, K2, K3 COIL WIRES

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PART NO.	REV	DOC	SHEET	OF
500 - 00058B - D	AD		1	12



K4 TO K5 WIRES

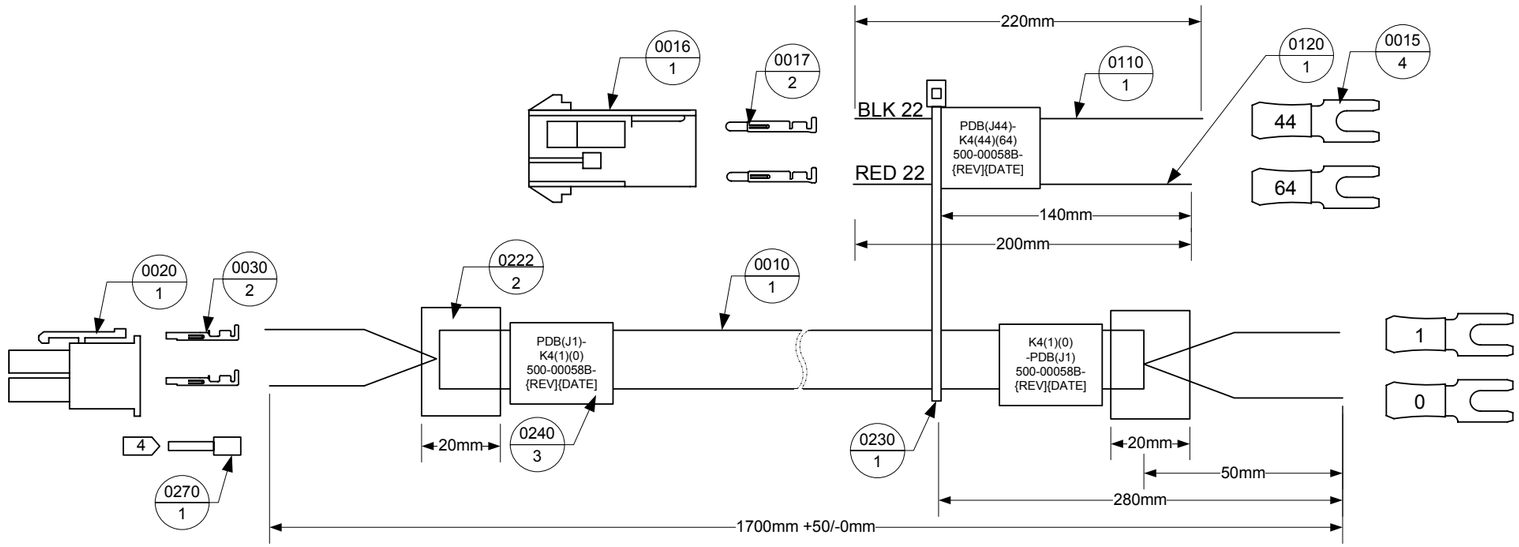
NOTES:

1. 0010 / 1 — ITEM # ON THIS PAGE / # OF PLACES ON THIS PAGE
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen

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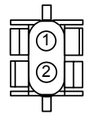
DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

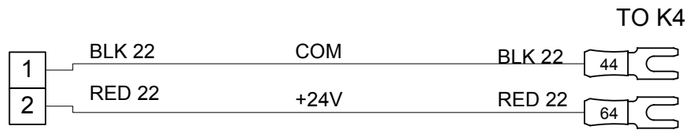
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MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS	
PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	2	12



CONNECTION DIAGRAM

TO PDB0 J44

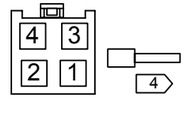


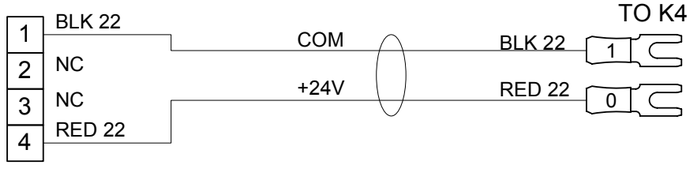


TERMINAL 44

TERMINAL 64

TO PDB0 J1





TERMINAL 1

TERMINAL 0

VIEW FROM WIRE ENTRY

K4 TO PDB CABLES

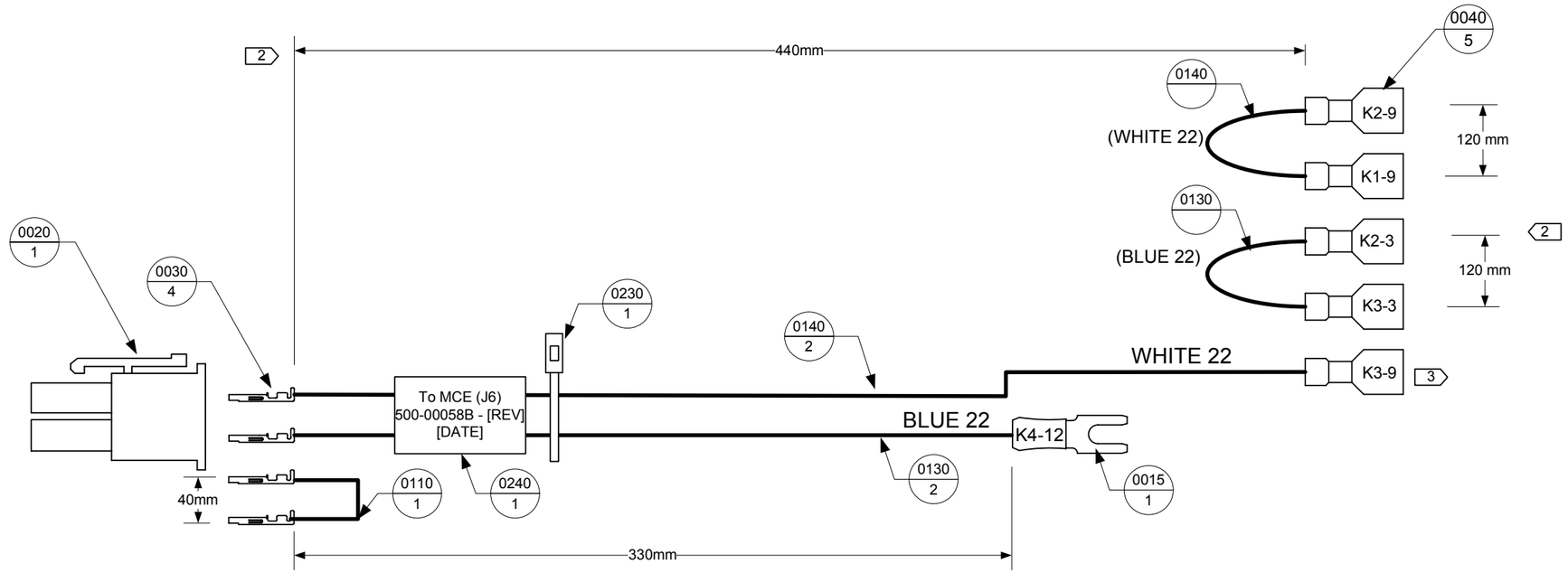
NOTES:

1. 0010 / 1 — ITEM # ON THIS PAGE; # OF PLACES ON THIS PAGE
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen
4. Insert Key pin in pin 3

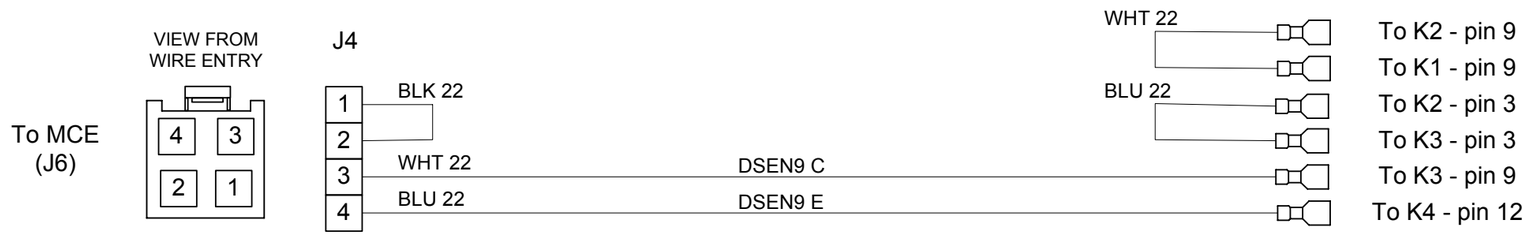
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Assembly Drawing

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PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	3	12



CONNECTION DIAGRAM



MCE TO
K1, K2, K3

NOTES:

1. 0010 / 1 — ITEM # ON THIS PAGE / # OF PLACES ON THIS PAGE
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen

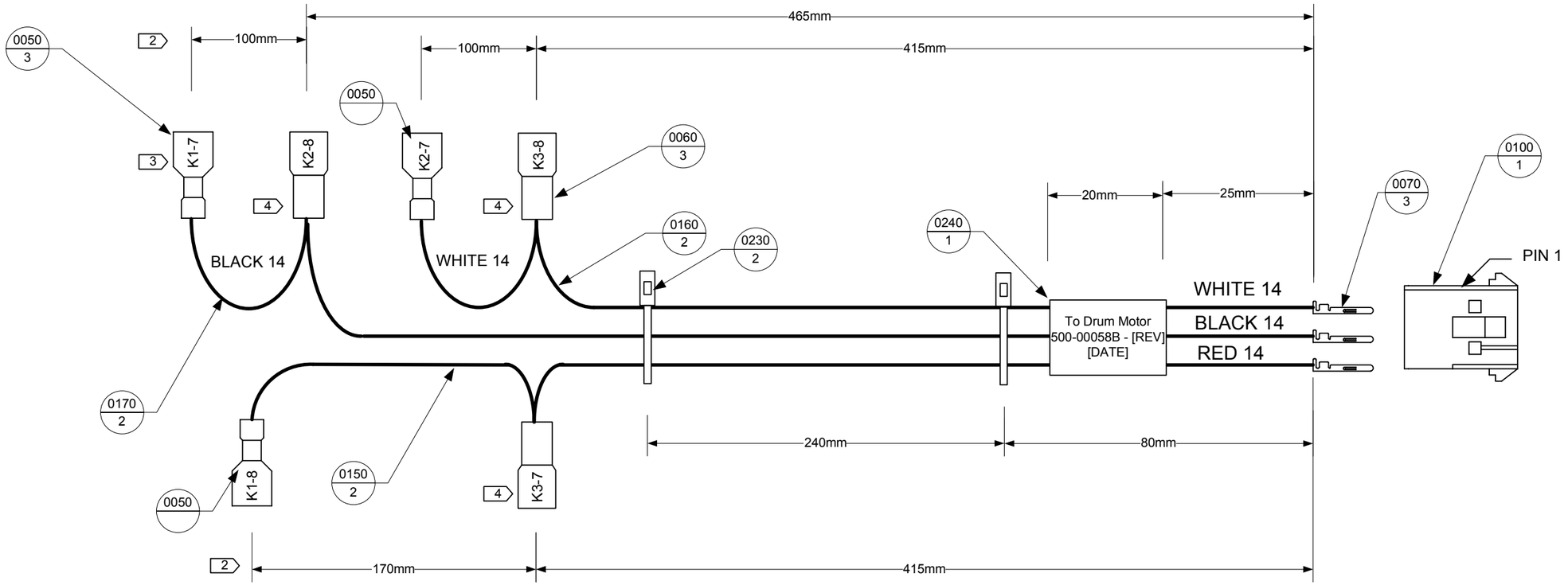
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Assembly Drawing

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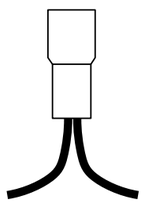
MILLIMETERS UNLESS SPECIFIED	DATE	SIZE	SCALE
	2004,JUL,07	B	NTS

PART NO.	REV	DOC	SHEET	OF
500 - 00058B - D	AD	4	12	

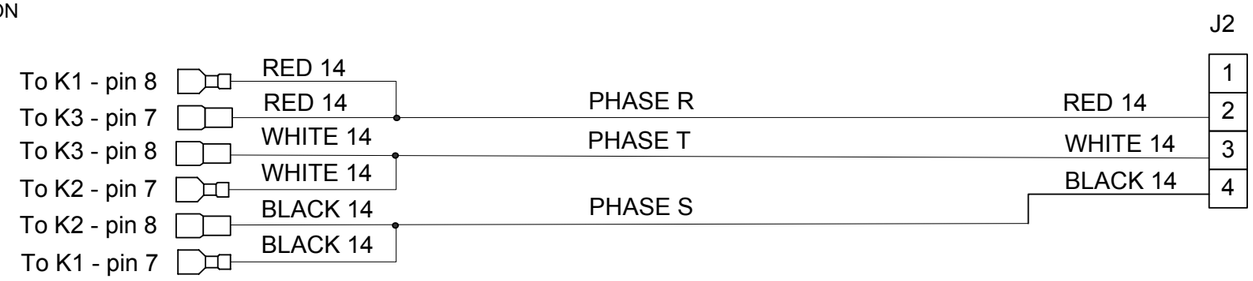


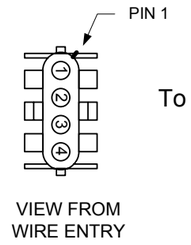
4 Assembly Note for Yellow Pushon Connectors

Insert the wires beside each other (not one on top of the other), then crimp.



CONNECTION DIAGRAM





Relay To Drum Motor

NOTES:

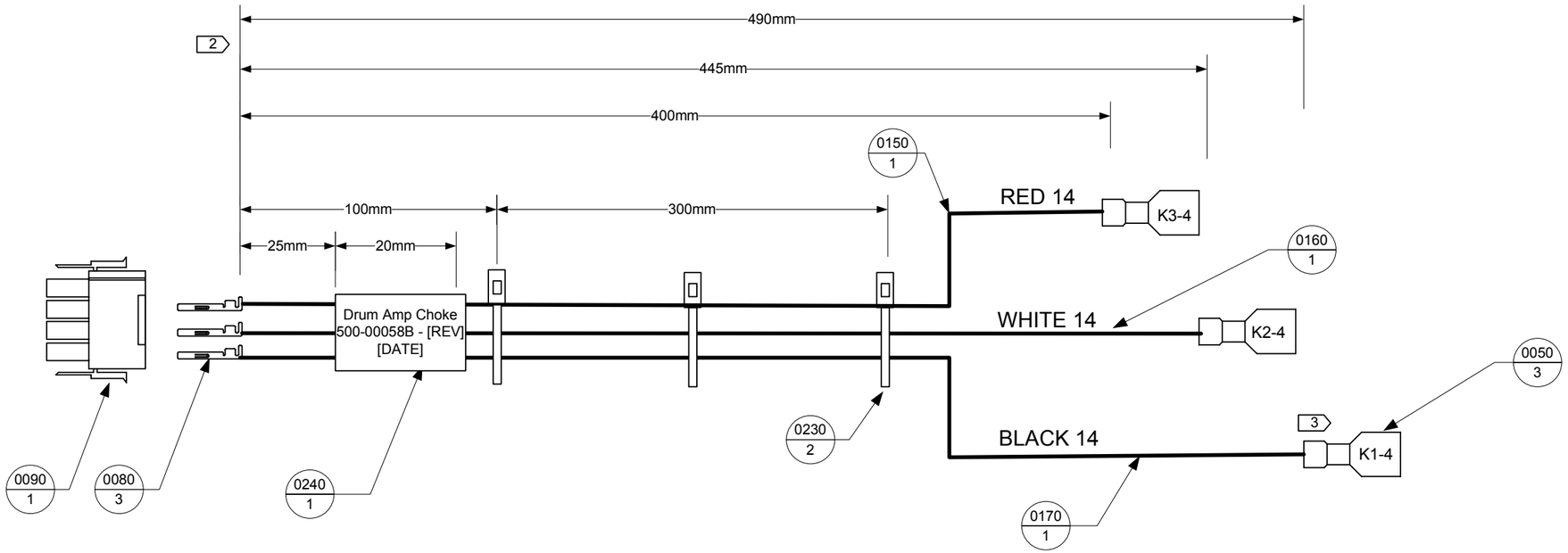
1. 0010 / 1 — ITEM # / # OF PLACES
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen
4. See Assembly Note

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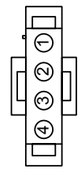
DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

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MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS

PART NO.	REV	DOC	SHEET	OF
500 - 00058B	- D	AD	5	12



CONNECTION DIAGRAM



To Drum Amp Choke

VIEW FROM WIRE ENTRY

J1			
1			
2	RED 14	PHASE 1	To K3 - pin 4
3	WHITE 14	PHASE 3	To K2 - pin 4
4	BLACK 14	PHASE 2	To K1 - pin 4

NOTES:

1. 0010 / 1 — ITEM # / # OF PLACES
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen

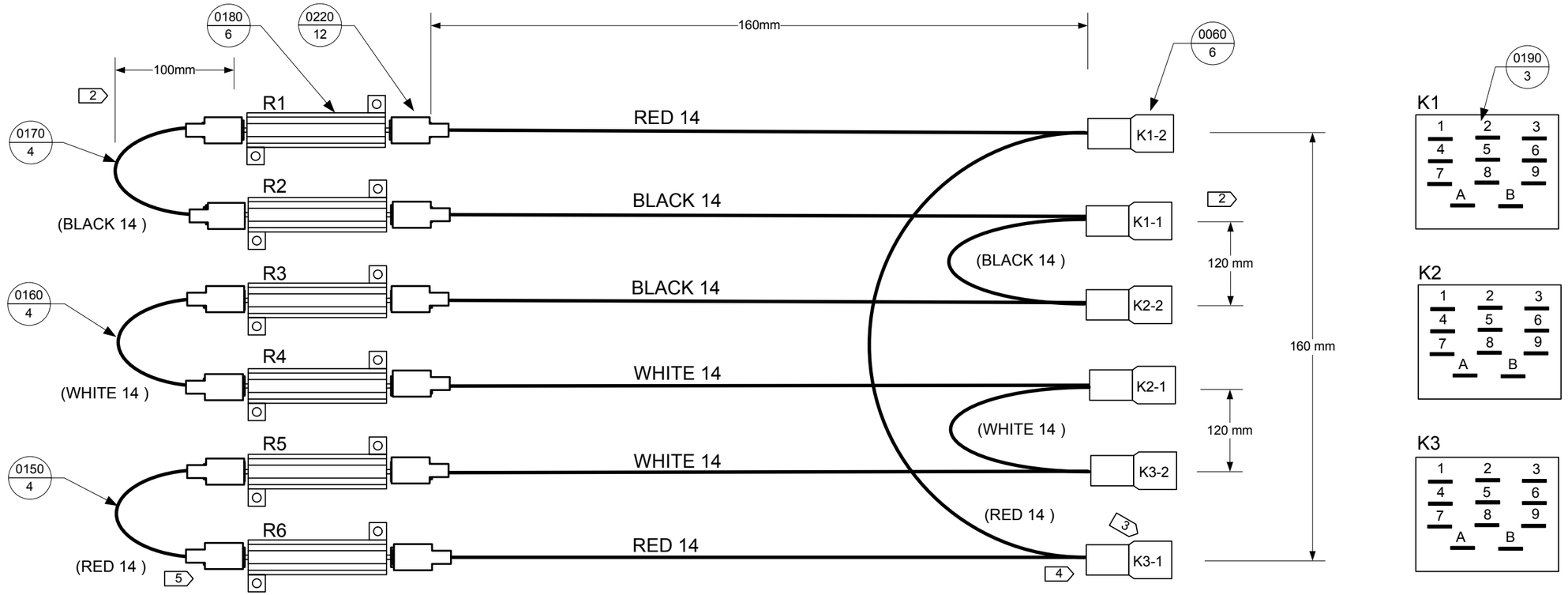
Relay To Drum Amp
Com Mode Choke

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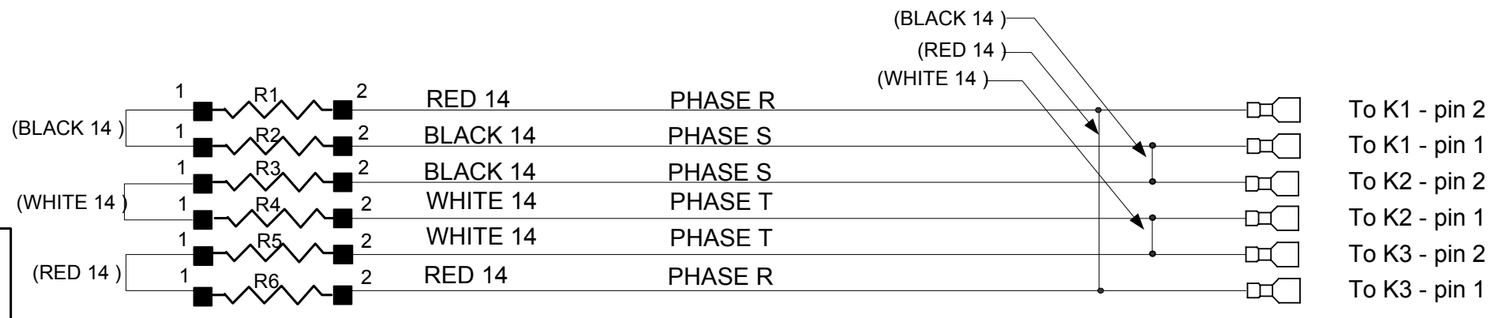
DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

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MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS

PART NO.	REV	DOC	SHEET	OF
500 - 00058B - D	AD		6	12

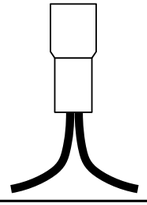


CONNECTION DIAGRAM



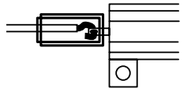
4 Assembly Note for Yellow Pushon Connectors

Insert the wires beside each other (not one on top of the other), then crimp.



5 Assembly Note for Soldering ResistorS

All wires must be looped through the holes in the resistor leads, soldered, and covered with 15 mm heat shrink tubes.



NOTES:

1. 0010 / 1 — ITEM # / # OF PLACES
2. All dimensions represent actual wire lengths, not distances. The standard length tolerance is +10/-0 mm, unless otherwise specified
3. Mark the terminals against their destination, with a 0.5 mm permanent ink pen
4. See assembly Note.
5. See assembly Note.

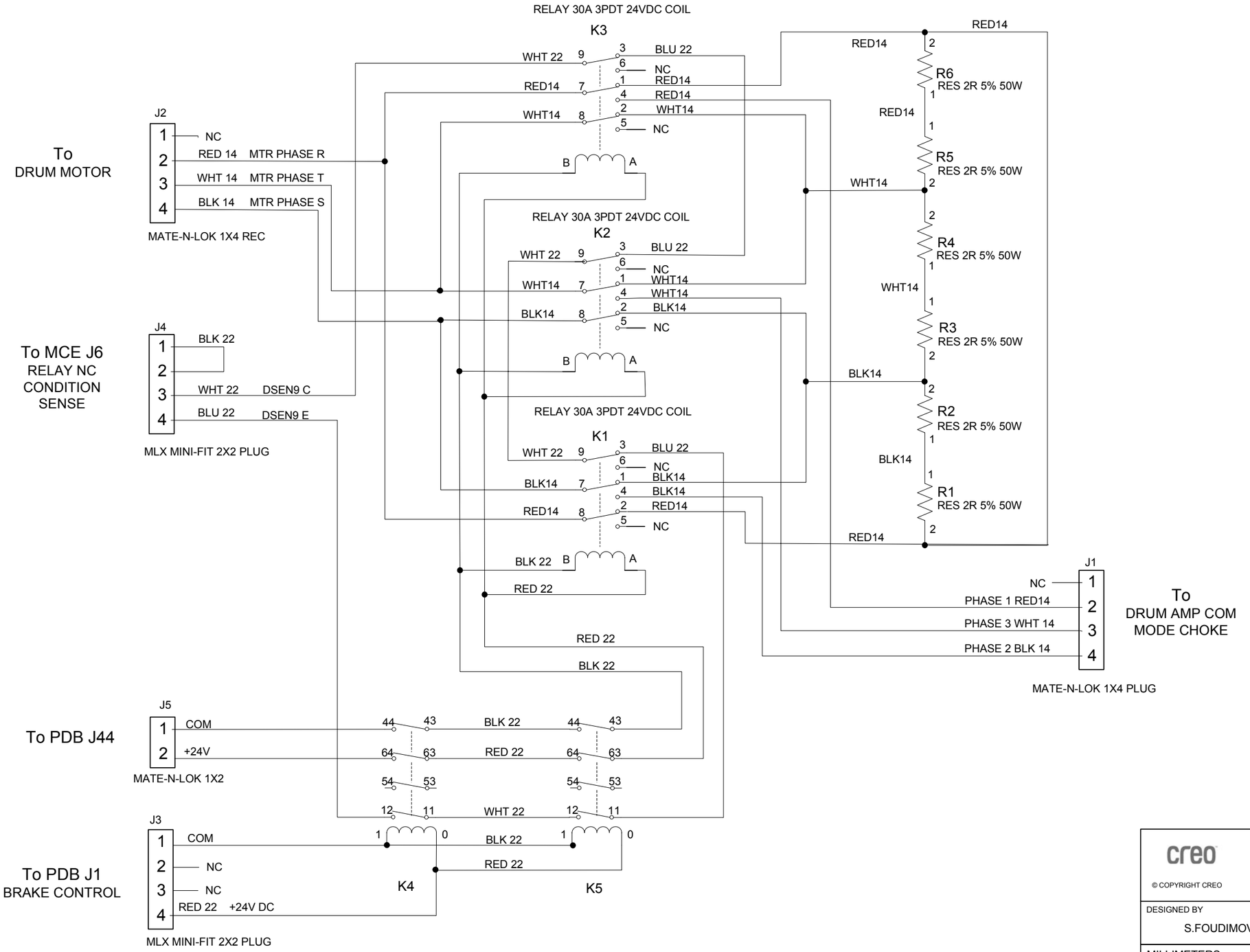
Resistors Assembly

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Assembly Drawing

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PART NO.	REV	DOC	SHEET	OF
500 - 00058B - D	AD		7	12

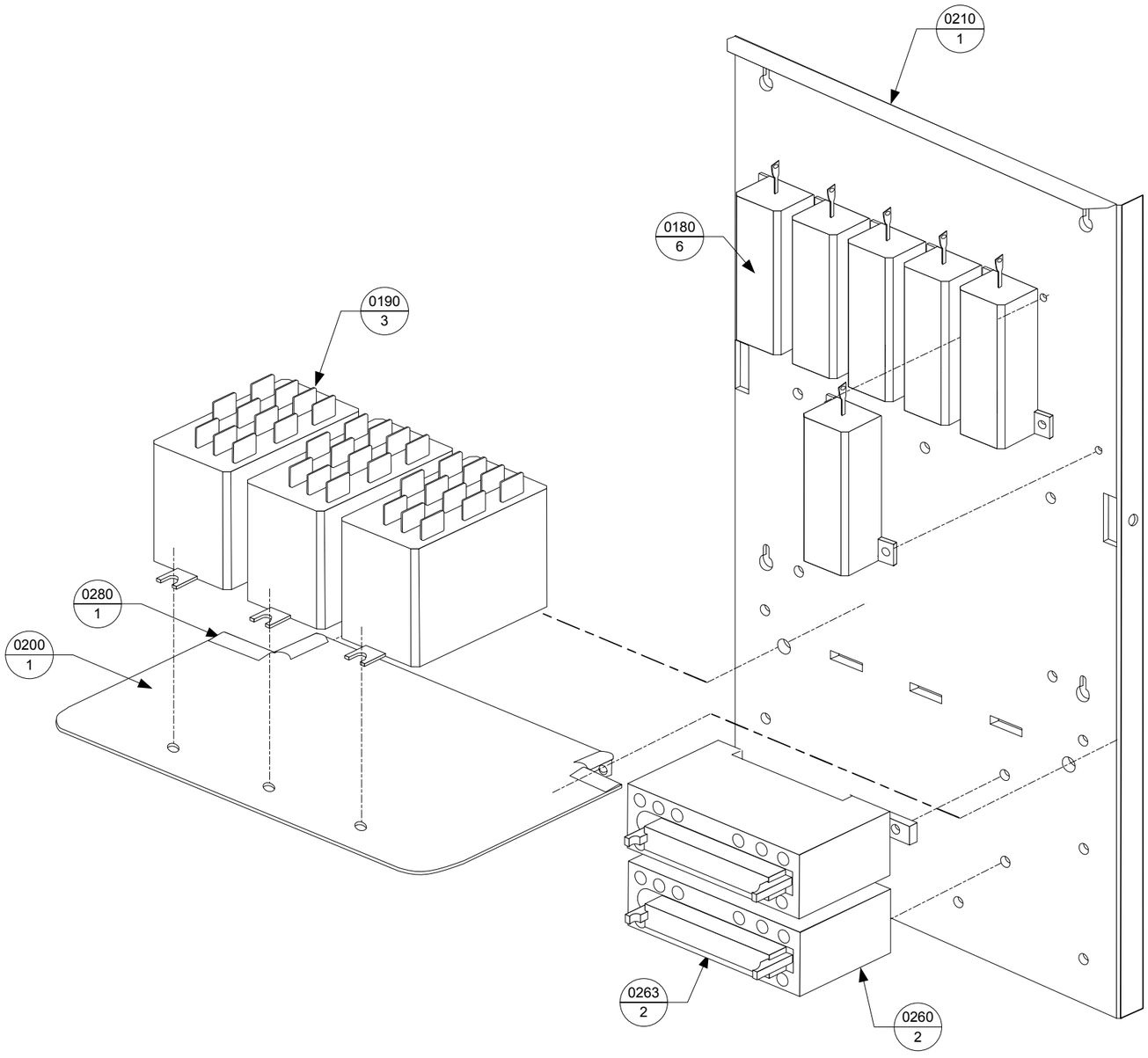


Schematic

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DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

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MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS	
PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	8	12



Assembly of the Bracket

Materials: Brkt,Drum Brake,Relay Tray (Item # 200)
Brkt,Drum Brake,MTA (Item # 210)
2 pcs of M5 X 12 screw (Item # 201)

Installation of the six resistors (Item # 180)

Materials: 12 pcs of M3 X 8 screw (Item # 181)
12 pcs of M3 bel washer (Item # 182)

Installation of the three 600V relays (Item # 190)

Materials: 3 pcs of M3 X 8 screw (Item # 191)
3 pcs of M3 bel washer (Item # 192)

Installation of the relay socket (Item #260)

Materials: 4 pcs of M4 X14 screw (Item # 261)
4 pcs of M4 flat washer (Item # 262)

Installation of resistor plate

Materials: 2 pcs of M5 X12 screw (Item # 201)
2 pcs of M5 bel washer (Item # 202)
20mm of rubber edge trim (Item # 280)

Installation of edge gromet

Materials: Rubber edge trim (Item # 280)

Assembly Instruction

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Assembly Drawing

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PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	9	12

Assembly Procedure

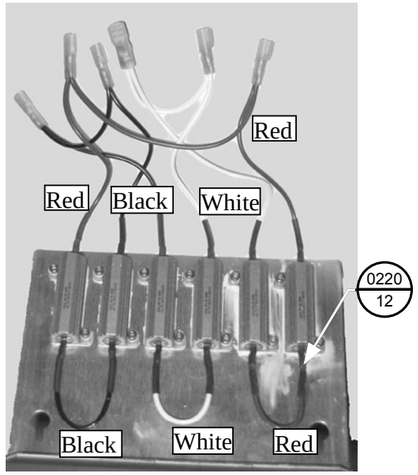


Figure 1. Resistors Assembly

Note: The following procedures are referring to the specification in the Assembly drawing 500-00058B.

1. Preparation for the required cables and wires.

1.1 Build the “K1,K2,K3 COIL WIRES” cable, according to specification on page 1 of this document.
1.2 Build the “K4 TO K5” cable, according to specification on page 2.
1.3 Build the “K4 TO PDB CABLES”, according to specification on page 3.
1.4 Build the “MCE TO K1,K2,K3” cable, according to specification on page 4 of this document.
1.5 Build the “RELAY TO DRUM MOTOR” cable, according to specification on page 5.
1.6 Build the “RELAY TO DRUM AMP CHOKE” cable, according to specification on page 6.
1.7 Build the “RESISTOR ASSEMBLY” 14 AWG wires, according to the specification on page 7.

2. Wire up the six resistors (item 0180)

2.1 Build the 14AWG hook up wires for the “RESISTOR ASSEMBLY”, according to the specification on page 7.
2.2 Put the heatshrink tubes (item 0220), each of 15mm into the 14AWG wires of red, white, and black colors. The wires are looped through the holes in the resistor leads. Then solder them to the leads of the resistors. Move the heatshrink tubes to cover up the exposed leads, and use heat gun to fix them in positions.
2.3 Solder the leads of the resistors in the other side with 14AWG wires according to the specification in page 7. Cover up the soldered leads with heatshrink tubes (item 0220). (figure 1)

3. Route the wires from the six resistors to the three relays according to figure 2. Push the terminals on to the relay pins completely, and make sure they are seated well.

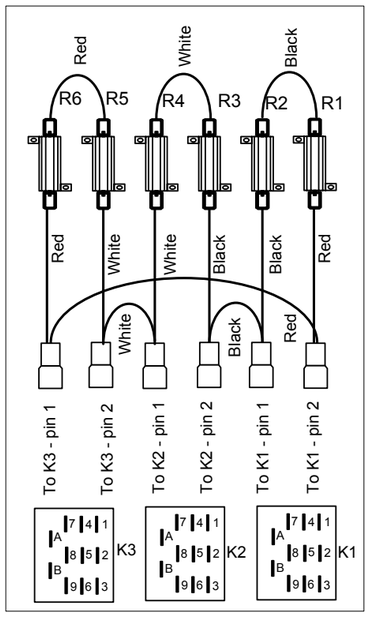


Figure 2. Wire routing between Relays and resistors

3. Route the cable ‘MCE TO K1,K2,K3’ as in figure 3 and figure 9.
Push the terminals into the corresponding pins of the relay, and ensure they are locked securely in the relay pins

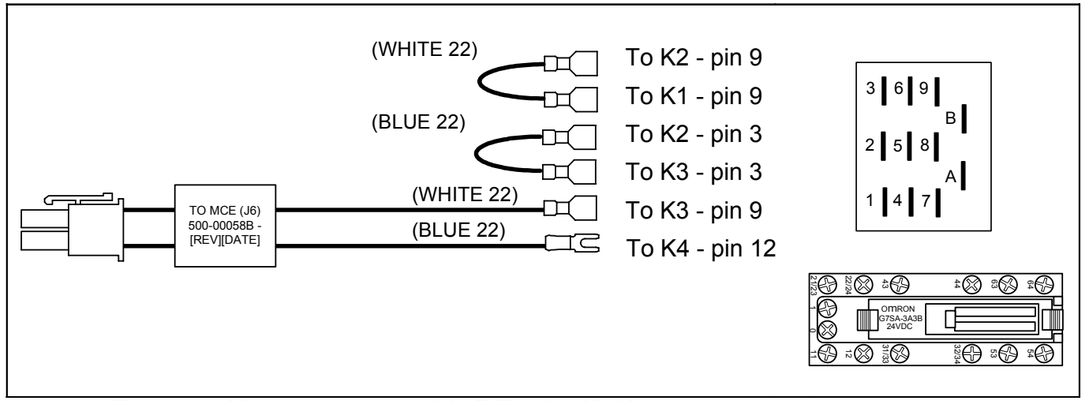


Figure 3. Wire routing for the ‘MCE TO K1,K2,K3’ cable

4. Route the cable ‘K4 TO PDB CABLES’ as in figure 4 and figure 9.
Push the terminals into the corresponding pins of the relay, and ensure they are locked securely in the relay pins

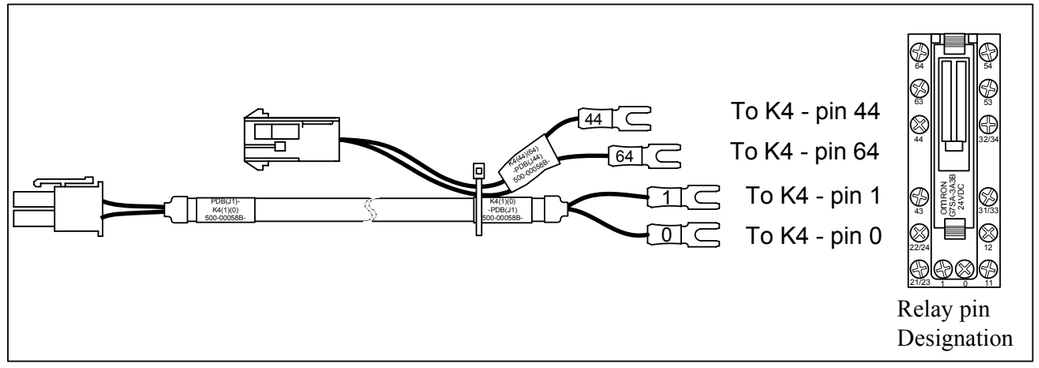


Figure 4. Wire routing for the ‘K4 TO PDB CABLES’

Assembly Instruction

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MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS	
PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	10	12

5. Route the ' **K1,K2,K3 COIL WIRES** ' as in figure 5. Push the terminals into the corresponding pins of the relay, and ensure they are locked securely in the relay pins.

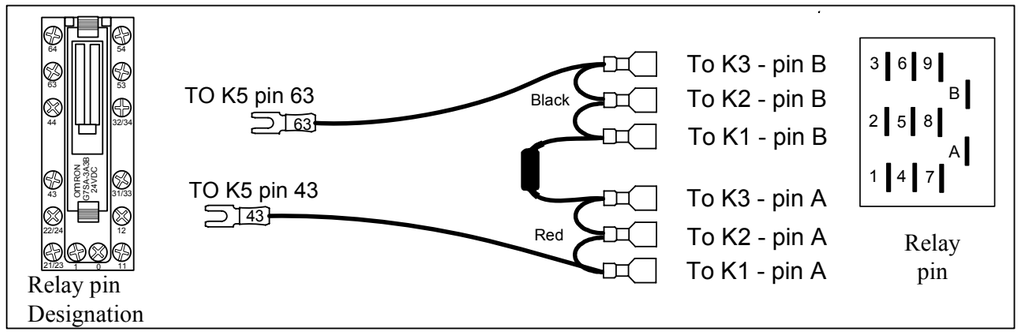


Figure 5. Wire routing for the 'K1,K2,K3 COIL WIRES'

6. Route the ' **Relay to Drum Amp Choke Cable** ' as in figure 6 and figure 8. Push the terminals into the corresponding pins of the relay, and ensure they are locked securely in the relay pins.

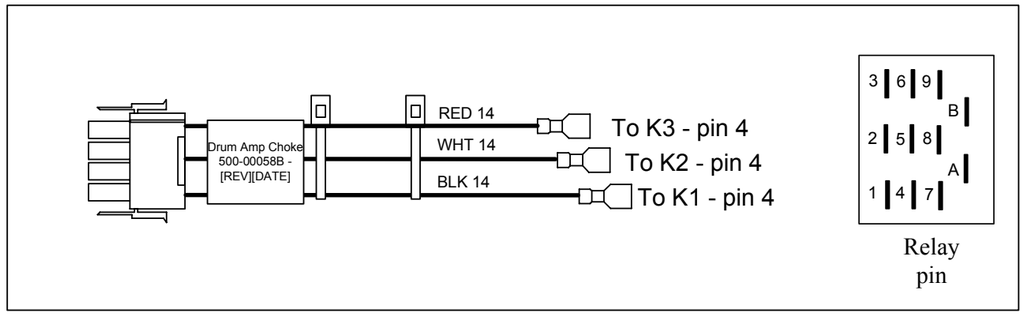


Figure 6. Wire routing for the 'Relay to Drum Amp Choke Cable'

7. Route the ' **Relay to Drum Motor Cable** ' as in figure 7 and figure 8. Push the terminals into the corresponding pins of the relay, and ensure they are locked securely in the relay pins.

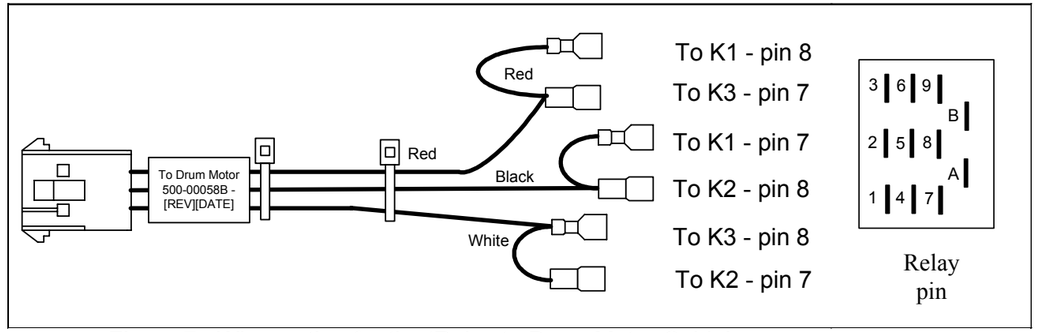


Figure 7. Wire routing for the 'Relay to Drum Motor Cable'

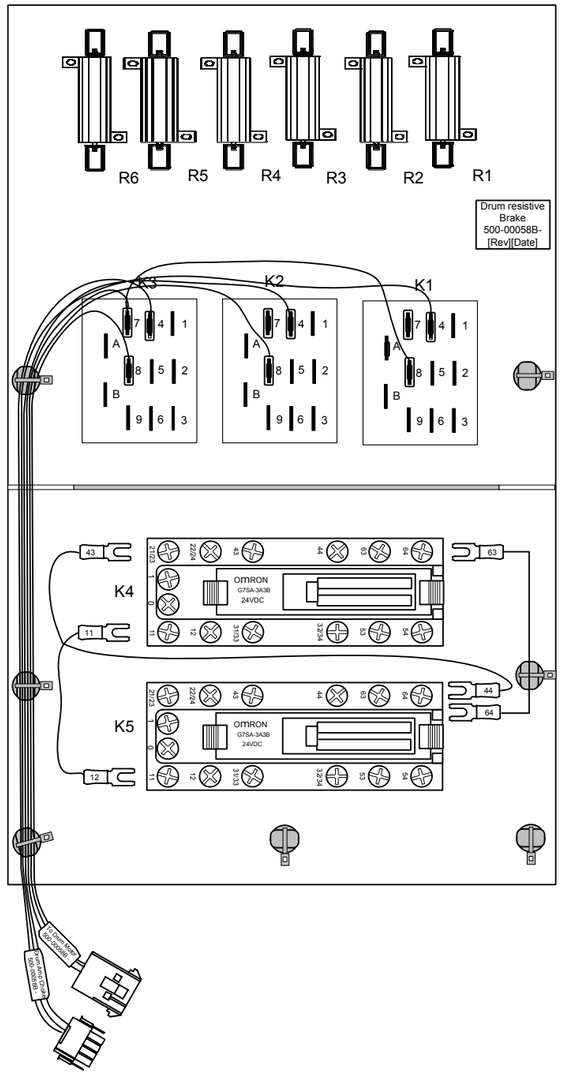


Figure 8. Wire routing for DRUM AMP AND DRUM MOTOR cables

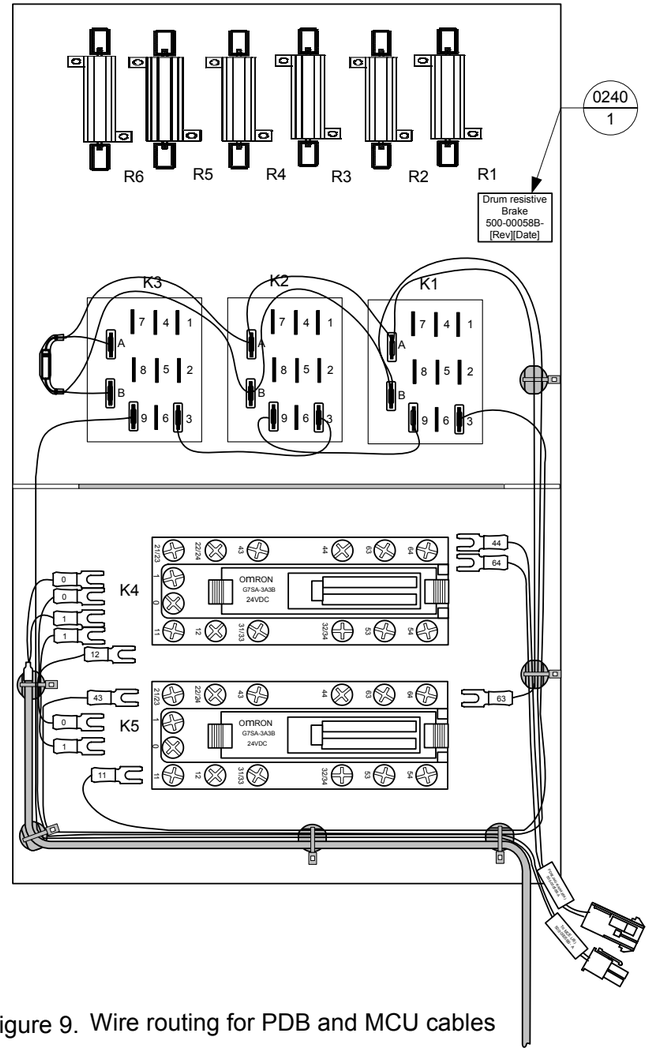


Figure 9. Wire routing for PDB and MCU cables

Assembly Instruction

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PART NO.	REV	DOC	SHEET	OF
500 - 00058B -	D	AD	11	12

Test Specification

A. Required equipment :
- Digital Multi-meter
- DC Power Supply with 24V DC output at >1A protected.
- A cable connecting the 24V DC Power Supply and the 4-pin Minifit connector and the 2-pin Molex connector.

B. Test Procedure

1. Measure the resistance between pins in the 4-pin Molex connector J2 (labeled "TO DRUM MOTOR"). The reading is as the specification table below

Between pins		Resistance (Ohm)	
2	3	2.7 +/-0.5	
2	4	2.7 +/-0.5	
3	4	2.7 +/-0.5	

2. Connect the Power supply to the two connectors of the Resistive Brake assembly with the adapter cable.

3. Turn ON the Power Supply. All the relays should be energized.

4. Measure the resistance between pins in the 4-pin Molex connector J2 (labeled "TO DRUM MOTOR"). The reading is as the specification table below

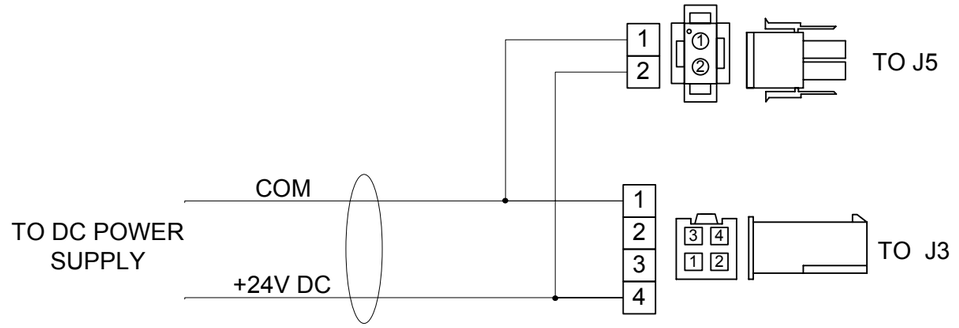
Between pins		Resistance (Ohm)	
2	3	OL (open line)	
2	4	OL (open line)	
3	4	OL (open line)	

5. Measure the continuity between connector J1 and J2

Between pins		Resistance (Ohm)	
J1	**J2**		
2	2	0	
3	3	0	
4	4	0	

6. Turn OFF the Power Supply

C. End of Test



TEST CABLE TO CONNECT POWER SUPPLY AND THE RESISTIVE BRAKE ASSEMBLY

TEST SPECIFICATION

creo

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DRUM RESISTIVE BRAKE, MTA
Assembly Drawing

DESIGNED BY	DRAWN BY			
S.FOUDIMOV	K.CHENG			
MILLIMETERS UNLESS SPECIFIED	DATE 2004,JUL,07	SIZE B	SCALE NTS	
PART NO.	REV	DOC	SHEET	OF
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